SMBJ SERIES



SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS



FEATURES

- * For surface mount application
- * Built-in strain relief
- * Excellent clamping capability
- * Low profile package
- * Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- * Typical I_R less than 1μA above 10V
- * High temperature soldering guaranteed: 260°C / 10 seconds at terminals

MECHANICAL DATA

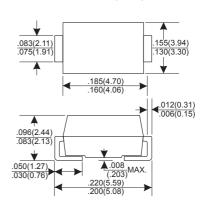
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Solderable per MIL-STD-202, method 208 guranteed
- * Polarity: Color band denotes cathode end except Bidirectional
- * Mounting position: Any
- * Weight: 0.093 grams

VOLTAGE RANGE

5.0 to 170 Volts

600 Watts Peak Power

DO-214AA(SMB)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwies specified. Single phase half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at Ta=25°C, Tp=1ms(NOTE 1)	Ррк	Minimum 600	Watts
Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (NOTE 3)	İFSM	100	Amps
Maximum Instantenous Forward Voltage at 35.0A for Unidirectional only	VF	3.5	Volts
Operating and Storage Temperature Range	Тл, Твтв	-55 to +150	రి

NOTES:

- 1. Non-repetitive current pulse per Fig. 3 and derated above Ta=25°C per Fig. 2.
- 2. Mounted on Copper Pad area of 5.0mm²(.013mm Thick) to each terminal.
- 3. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

DEVICES FOR BIPOLAR APPLICATIONS

- 1. For Bidirectional use C or CA Suffix for types SMBJ5.0 thru SMBJ170.
- 2. Electrical characteristics apply in both directions.

RATING AND CHARACTERISTIC CURVES (SMBJ SERIES)



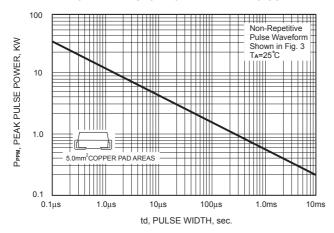


FIG.2-PULSE DERATING CURVE

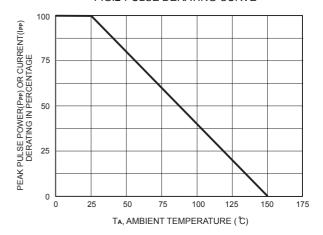


FIG.3-PULSE WAVE FORM

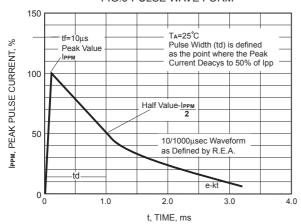


FIG.4-TYPICAL JUNCTION CAPACITANCE

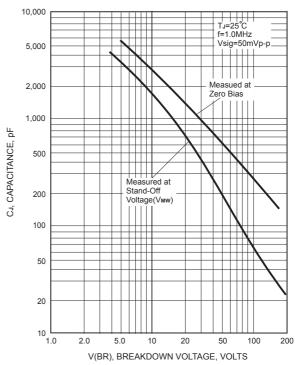
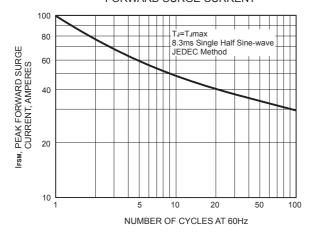


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



600 Watt Surface Mount TVS

ADD C FOR BI	PART NUMBER	REVERSE	BREAKDOWN	BREAKDOWN	TEST	MAXIMUM	PEAK	REVERSE	MADI	CING
DIRECTIONAL VOLTAGE VERWIN VIRW VIRW VIRW MIN. @IT MAX. @IT WAX. @IT					_			_		
SMBLB (C) A 5.0 6.40 7.55 10 9.2 66.2 800 KP ABMBLB (C) A 5.0 6.40 7.25 10 9.2 66.2 800 KF ABMBLB (C) A 6.0 6.67 8.45 10 11.4 52.6 800 KF ABMBLB (C) A 6.0 6.67 7.67 10 10.3 58.3 800 KF ABMBLB (C) A 6.0 6.67 7.67 10 10.3 58.3 800 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 6.5 7.22 8.30 10 11.2 53.6 500 KF ABMBLB (C) A 7.5 6.33 10.57 1 14.2 54.0 40.0 50 C KF ABMBLB (C) A 7.5 6.33 10.57 1 14.2 54.0 40.0 50 C KF ABMBLB (C) A 7.5 6.33 10.57 1 14.2 54.0 40.0 50 C KF ABMBLB (C) A 8.8 89 11.30 1 15.0 40.0 50 C KF ABMBLB (C) A 8.8 89 11.30 1 15.0 40.0 50 KF ABMBLB (C) A 8.0 8.89 10.23 1 13.6 44.1 50 KR ABMBLB (C) A 8.0 8.89 10.23 1 13.6 44.1 50 KR ABMBLB (C) A 8.5 9.44 10.82 1 14.4 41.7 10 KT AT ABMBLB (C) A 8.5 9.44 10.82 1 15.9 37.7 10 KT AT ABMBLB (C) A 8.5 9.44 10.82 1 15.9 37.7 10 KT AT ABMBLB (C) A 9.0 10.0 12.60 1 16.9 35.5 5 KV AW ABMBLB (C) A 10.0 11.1 14.0 1 11.4 4.0 1 15.4 33.0 5 KV AW ABMBLB (C) A 11.1 1 14.0 1 11.4 4.0 1 15.4 33.0 5 KV AW ABMBLB (C) A 11.1 1 12.2 15.40 1 16.9 35.5 5 KW AW ABMBLB (C) A 11.1 1 12.2 15.40 1 16.9 35.5 5 KW AW ABMBLB (C) A 11.1 1 12.2 15.40 1 12.2 15.40 1 12.2 15.40 1 12.2 15.40 1 18.2 30.0 5 KV AW ABMBLB (C) A 11.1 1 12.2 15.40 1 12.2 15.					_					
SMBLB.0 (C) A 5.0 6.40 7.25 10 9.2 65.2 800 KE AE SMBLB.0 (C) 6.0 6.67 7.67 10 10.3 58.3 800 KG AD SMBLB.0 (C) 6.0 6.67 7.67 10 10.3 58.3 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.3 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.3 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.6 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.6 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.6 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.6 800 KG AD SMBLB.0 (C) 6.5 7.22 8.30 10 11.3 58.6 800 KG AD SMBLB.0 (C) 7.5 8.33 10.67 11 14.3 42.0 10.0 0.0 0.0 0.0 KM AM SMBLB.0 (C) 8.0 8.89 11.30 1 15.0 40.0 50 KQ AD SMBLB.0 (C) 8.0 8.89 11.30 1 15.0 40.0 50 KQ AD SMBLB.0 (C) 8.5 9.44 11.92 1 15.9 37.7 10 KS AS SMBLB.0 (C) 8.5 9.44 11.92 1 15.9 37.7 10 KS AS SMBLB.0 (C) 8.5 9.44 10.82 1 14.4 41.7 10 KT AT SMBLB.0 (C) 9.0 10.0 12.60 1 16.9 35.5 5 KU AU SMBLB.0 (C) 9.0 10.0 12.60 1 16.9 35.5 5 KU AU SMBLB.0 (C) 9.0 10.0 12.60 1 16.9 35.5 5 KU AU SMBLB.0 (C) 9.0 10.0 12.60 1 16.9 35.5 5 KW AV SMBLB.0 (C) 10 11.1 1 12.2 14.00 1 18.8 31.9 5 KW AV SMBLB.1 (C) 11 12 12.2 14.00 1 15.2 33.0 5 KW AV SMBLB.1 (C) 11 12.2 14.00 1 1.2 2 33.0 5 KW AV SMBLB.1 (C) 11 12.2 14.00 1 1.2 2 33.0 5 KW AV SMBLB.1 (C) 11 12.2 14.00 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 12.2 14.00 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 1.1 12.2 14.00 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 1.1 1.2 1.3 16.9 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 1.1 12.2 14.00 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 1 1.2 2 1.3 16.90 1 1.2 2 3.3 5 KW AV SMBLB.1 (C) 1 1 1 1.2 2 1.3 16.90 1 1.2 2 3.2 2 5.8 5 KW AV SMBLB.1 (C) 1 1 1 1.2 2 1.3 16.90 1 1.2 2 3.3 2 5.5 KW AV SMBLB.1 (C) 1 1 1 1.2 2 1.3 16.90 1 1.2 2 2 2 2 2 5 8 5 KW AV SMBLB.1 (C) 1 1 1 1.2 2 1 1.3 3 16.90 1 1 2.2 2 2 2 2 5 8 5 KW AV SMBLB.1 (C) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	See Note 1	VRWM (V)	MIN. @IT	MAX. @IT	(mA)	@lpp Vc (V)	lpp (A)	IR(μA)	UNI	BI
SMBJB,0(C) 6.0 6.67 8.45 10 11.4 52.6 800 KF AF SMBJB,0(C) 6.0 6.67 7.67 10 10.3 58.3 800 KG AD SMBJB,0(C) 6.5 7.22 9.14 10 12.3 48.7 500 KH AH SMBJB,0(C) 6.5 7.22 9.14 10 12.3 48.7 500 KH AH SMBJB,0(C) 7.0 7.78 9.86 10 12.3 45.1 200 KL AL SMBJB,0(C) 7.0 7.78 9.86 10 12.3 45.1 200 KL AL SMBJB,0(C) 7.0 7.78 9.86 10 12.0 50.0 200 KM AM SMBJB,0(C) 7.5 8.33 10.6 1 14.3 42.0 100 KM AM SMBJB,0(C) 7.5 8.33 10.6 1 14.3 42.0 100 KM AM SMBJB,0(C) 7.5 8.33 10.6 1 14.3 42.0 100 KM AM SMBJB,0(C) 7.5 8.89 10 12.0 50.0 200 KM AM SMBJB,0(C) 8.89 10 12.0 50.0 200 KM AM SMBJB,0(C) 8.5 9.44 10.82 1 15.6 44.1 50 KR AR SMBJB,0(C) 8.5 9.44 10.82 1 14.4 41.7 10 KT AT SMBJB,0(C) 9.0 10.0 12.60 1 16.9 35.5 5 KU AU SMBJB,0(C) 9.0 10.0 11.50 1 15.4 39.0 5 KW AM SMBJB,0(C) 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,0(C) 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,10(C) 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,10(C) 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,10(C) 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,10(C) 1 1 11.1 12.2 1 14.0 1 18.8 31.9 5 KW AW SMBJB,10(C) 1 1 12.2 15.4 0 1 12.0 1 20.3 2.3 3 5 KX AX SMBJB,10(C) 1 1 12.2 15.4 0 1 12.2 15.0 1 12.2 1 12.2 1 12.3 3 1 13.6 6 KR AR SMBJB,10(C) 1 1 12.2 15.0 1 15.4 39.0 5 KW AW SMBJB,11(C) 1 1 12.2 15.0 1 12.2 1 12.2 1 12.3 3 1 13.5 5 KW AW SMBJB,11(C) 1 1 12.2 15.0 1 17.0 35.3 5 KX AX SMBJB,11(C) 1 1 12.2 15.0 1 17.0 2.5 3 5 KX AX SMBJB,11(C) 1 1 12.2 15.0 1 12.2 1 12.2 1 12.3 3 1 13.9 5 KW AW SMBJB,11(C) 1 1 12.2 15.0 1 12.2 1 12.2 1 12.2 1 12.3 3 1 13.9 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 1 13.3 16.9 0 1 12.2 2 2 2 5 5 KW AW SMBJB,11(C) 1 1 1 12.2 13.3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SMBJ5.0(C)									
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SMBLB.5(C) 6.5 7.22 9.14 10 12.3 48.7 500 KH AH SMBLB.5(C) 6.5 7.22 8.30 10 11.2 53.6 500 KK AK SMBLB.5(C) 6.5 7.22 8.30 10 11.2 53.6 500 KK AK SMBLB.7(C) 7.0 7.78 9.86 10 13.3 45.1 200 KL AL SMBLB.7(C) 7.0 7.78 9.86 10 12.0 50.0 200 KL AL SMBLB.5(C) 7.5 8.33 10.67 1 14.3 42.0 100 KM AM SMBLB.5(C) 7.5 8.33 10.67 1 14.3 42.0 100 KM AM SMBLB.5(C) 7.5 8.33 9.58 1 12.9 46.5 100 KP AP SMBLB.8(C) 8.0 8.89 11.33 1 15.0 40.1 60 KR AR SMBLB.5(C) 8.0 8.89 11.33 1 15.0 40.1 60 KR AR SMBLB.5(C) 8.5 9.44 10.82 1 14.4 41.7 10 KS AS SMBLB.5(C) 8.5 9.44 10.82 1 14.4 41.7 10 KS AS SMBLB.5(C) 9.0 10.0 12.60 1 16.9 35.5 5 KU AU SMBLB.9(C) 10 11.1 14.10 1 18.8 31.9 5 KW AW SMBLB.5(C) 10 11.1 14.10 1 18.8 31.9 5 KW AW SMBLB.5(C) 10 11.1 12.2 15.40 1 12.0 12.9 5 KW AW SMBLB.5(C) 10 11.1 12.2 15.40 1 12.0 12.9 5 KW AW SMBLB.5(C) 10 11.1 12.2 15.40 1 12.2 15.0 1 12.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	\ /									
SMBJB,G(C)	— ` ′									
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SMBJ48(C) 48 53.3 67.50 1 85.5 7.0 5 MW CW SMBJ48(C)A 48 53.3 61.30 1 77.4 7.7 5 MX CX SMBJ51(C) 51 56.7 71.80 1 91.1 6.6 5 MY CY SMBJ51(C)A 51 56.7 65.20 1 82.4 7.3 5 MZ CZ SMBJ54(C) 54 60.0 76.00 1 96.3 6.2 5 ND DD SMBJ54(C)A 54 60.0 69.00 1 87.1 6.9 5 NE DE SMBJ58(C) 58 64.4 81.60 1 103 5.8 5 NF DF				63.30			7.5	5		
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SMBJ54(C) 54 60.0 76.00 1 96.3 6.2 5 ND DD SMBJ54(C)A 54 60.0 69.00 1 87.1 6.9 5 NE DE SMBJ58(C) 58 64.4 81.60 1 103 5.8 5 NF DF	SMBJ51(C)	51	56.7	71.80	1	91.1	6.6	5	MY	CY
SMBJ54(C)A 54 60.0 69.00 1 87.1 6.9 5 NE DE SMBJ58(C) 58 64.4 81.60 1 103 5.8 5 NF DF	SMBJ51(C)A									
SMBJ58(C) 58 64.4 81.60 1 103 5.8 5 NF DF	SMBJ54(C)			76.00				5		
SMBJ58(U)A 58 64.4 74.10 1 93.6 6.4 5 NG DG	SMBJ58(C)A	58	64.4	74.10	1	93.6	6.4	5	NG	DG

600 Watt Surface Mount TVS

PART NUMBER ADD C FOR BI- DIRECTIONAL	REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE VBR (V)	BREAKDOWN VOLTAGE VBR (V)	TEST CURRENT IT	MAXIMUM CLAMPING VOLTAGE	PEAK PULSE CURRENT	REVERSE LEAKAGE @ VRWM	MAR	DE
See Note 1	VRWM (V)	MIN. @IT	MAX. @IT	(mA)	@lpp Vc (V)	lpp (A)	IR(μA)	UNI	BI
SMBJ60(C)	60	66.7	84.5	1	107	5.6	5	NH	DH
SMBJ60(C)A	60	66.7	76.7	1	96.8	6.2	5	NK	DK
SMBJ64(C)	64	71.1	90.1	1	114	5.3	5	NL	DL
SMBJ64(C)A	64	71.1	81.8	1	103	5.8	5	NM	DM
SMBJ70(C)	70	77.8	98.6	1	125	4.8	5	NN	DN
SMBJ70(C)A	70	77.8	89.5	1	113	5.3	5	NP	DP
SMBJ75(C)	75	83.3	105.7	1	134	4.5	5	NQ	DQ
SMBJ75(C)A	75	83.3	95.8	1	121	4.9	5	NR	DR
SMBJ78(C)	78	86.7	109.8	1	139	4.3	5	NS	DS
SMBJ78(C)A	78	86.7	99.7	1	126	4.7	5	NT	DT
SMBJ85(C)	85	94.4	119.2	1	151	3.9	5	NU	DU
SMBJ85(C)A	85	94.4	108.2	1	137	4.4	5	NV	DV
SMBJ90(C)	90	100	126.5	1	160	3.8	5	NW	DW
SMBJ90(C)A	90	100	115.5	1	146	4.1	5	NX	DX
SMBJ100(C)	100	111	141.0	1	179	3.4	5	NY	DY
SMBJ100(C)A	100	111	128.0	1	162	3.7	5	NZ	DZ
SMBJ110(C)	110	122	154.5	1	196	3.0	5	PD	ED
SMBJ110(C)A	110	122	140.5	1	177	3.4	5	PE	EE
SMBJ120(C)	120	133	169.0	1	214	2.8	5	PF	EF
SMBJ120(C)A	120	133	153.0	1	193	3.1	5	PG	EG
SMBJ130(C)	130	144	182.5	1	231	2.6	5	PH	EH
SMBJ130(C)A	130	144	165.5	1	209	2.9	5	PK	EK
SMBJ150(C)	150	167	211.5	1	268	2.2	5	PL	EL
SMBJ150(C)A	150	167	192.5	1	243	2.5	5	PM	EM
SMBJ160(C)	160	178	226.0	1	287	2.1	5	PN	EN
SMBJ160(C)A	160	178	205.0	1	259	2.3	5	PP	EP
SMBJ170(C)	160	189	239.5	1	304	2.0	5	PQ	EQ
SMBJ170(C)A	170	189	217.5	1	275	2.2	5	PR	ER